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Alternative Estimates of Corporate Depreciation and Profits: Part II

THIS is the second part of a study of corporate depreciation and profits. The main purpose of the study is to analyze the long term trend in profits after allowing for two factors that make it difficult to interpret trends in profits as they appear in the national income and product accounts. The first of these factors embraces the changes in depreciation practices brought about by the liberalization of depreciation laws and regulations since the start of World War II. The second relates to the valuation of depreciation—the fact that depreciation as reported in the accounts reflects historical costs, which are neither comparable over time nor comparable to the costs at which the other components of the GNP are calculated in any given year.

The first article, presented as part I in the April 1968 SURVEY, showed how corporate depreciation was affected by the four major changes in depreciation practices since the start of World War II. These changes were the 60-month amortization of defense facilities first permitted during World War II, the introduction of accelerated depreciation methods in 1954, the 1962 Guidelines, and the gradual shortening in tax service lives in the 10 to 20 years prior to 1962.

This article presents for the period 1929–66 several alternative consistent measures of corporate depreciation unaffected by changes in depreciation laws and regulations. The alternatives, calculated in both historical and current costs, are substituted for corporate capital consumption allowances in the national accounts to obtain alternative estimates of profits. The profits alternatives are compared with published profits, and for each, the ratios of

The share of profits in corporate product as measured in the national income accounts has declined since the early postwar period. However, this comparison suffers from the fact that many changes in depreciation practices have occurred since the start of World War II and the fact that depreciation is valued in terms of historical costs. This article, the second of a two-part study, provides several alternative estimates of profits based on depreciation methods and service lives that are consistent over time and in terms of both historical cost and current price depreciation. As a share of corporate product, all of the alternatives show smaller declines than the national income measure from the early postwar years to 1965–66. Part I of the study appeared in the April 1968 SURVEY.

profits to gross corporate product and to income originating in corporations are computed over time. This part of the study extends and revises a similar analysis that appeared in the October 1963 SURVEY:[1]

Aside from valuation problems, the reason that the article provides several alternative measures of depreciation (and profits) is that depreciation as reported to Internal Revenue Service (IRS)—even after adjustments for changes in practices—does not necessarily correspond to actual depreciation. Ideally, the national income accounts, which basically reflect tax depreciation, should reflect actual depreciation, but the problems involved in obtaining actual depreciation are difficult. We do not have sufficient information about actual service lives and

depreciation rates to permit agreement on a single measure of depreciation. Consequently, this article presents a range of alternatives based on different assumptions as to actual service lives and depreciation formulas. By examining them, one can form a judgment as to the range in which actual depreciation—and profits—probably fall and the effect of the various factors for which assumptions were necessary.

The coverage of the estimates in this article differs somewhat from part I. The estimates of depreciation and profits presented here are for nonfinancial corporations less depreciation and profits arising from their ownership of

Table 1.—Relationships Between Corporate Depreciation Estimates, 1966

[Billions of dollars]

Line	Item	Amount
1	IRS corporate depreciation [1]	[2] 38.2
2	Plus: Accidental damage to fixed capital.	.6
3	Capital consumption allowances for oil and gas well drilling and exploration charged to current expense.	1.5
4	Capital consumption allowances for passenger cars of employees reimbursed for travel expenses.	.7
5	Equals: Corporate capital consumption allowances in national income accounts.	39.9
6	Minus: Line 3.	1.5
7	Line 4.	.7
8	Capital consumption allowances for corporate farms.	.2
9	Capital consumption allowances for residential properties owned by corporations.	1.0
10	Equals: NIA-IRS corporate depreciation.	36.6
11	Plus: Line 3.	1.5
12	Line 4.	.7
13	Line 2.	.2
14	Minus: Capital consumption allowances for nonresidential properties owned by financial corporations.	1.7
15	Equals: Nonfinancial corporate capital consumption allowances less capital consumption allowances for residential properties (NIA).	37.6

1. Murray Brown, "Depreciation and Corporate Profits," SURVEY OF CURRENT BUSINESS, October 1963.

1. Excludes depreciation reported by foreign branches of U.S. corporations.
2. Preliminary estimate prepared by OBE.

residential properties. The associated measures of corporate output and income are similarly defined. Corresponding measures were computed for all corporations (including financial corporations) and are available upon request. Table 1 is appendix table C from part I, to which certain additions have been made (lines 11–15). These reconcile the concept of depreciation used in part I (line 10) with that used in part II (line 15). The latter concept of depreciation will ordinarily be referred to in this article as NIA depreciation; the related profits measure will be referred to as NIA profits.

The data and methods used in the study were discussed in the appendix in part I. Briefly, depreciation was computed with the perpetual inventory method from data on corporate investment flows. This procedure required assumptions as to service lives of assets and depreciation formulas. It also required that the corporate share of investment be derived from OBE's historical series on gross private domestic investment.

Major findings (part II)

As background to part II, some of the results presented in part I bear repeating. It was found in part I that the effects of the changes in depreciation practices have been substantial. Corporations have been able to recover the costs of their fixed investments more rapidly; with a rising investment stream, the more rapid recovery has yielded substantially larger depreciation allowances than would have arisen from the depreciation practices in effect before World War II. In the period 1941–66, corporate depreciation allowances are estimated to have totaled from $60 billion to $85 billion more than they would have with pre-World War II practices. During World War II and again since the midfifties, about one-fourth of corporate depreciation charges each year have been due to the changes in depreciation practices.

This article shows that as a result of the changes in depreciation practices, NIA corporate capital consumption allowances have increased more rapidly in

the postwar period than the computed alternatives based on consistent depreciation methods and service lives. In 1966, the alternatives were 3½ to 5¼ times their 1948 levels while the NIA series was 5½ times its 1948 value. The NIA series also shows more increase from 1929 to 1966 than the computed alternatives.

The alternative measures of profits presented in this article somewhat modify the observed movements in profits before taxes (plus IVA) as shown in the national accounts after World War II but do not change their direction.

According to NIA definitions, the level of before-tax profits rose slowly during the 1950's with cyclical declines following peaks in 1951, 1955, and 1959.

From 1961 to 1966, profits showed a strong expansion. The alternative measures show the same cyclical pattern with a stronger upward trend in the postwar period because of the more gradual rise in the alternative depreciation measures.

According to NIA definitions, profits as a share of corporate product declined during the 1950's, a development that has commonly been referred to as the "profits squeeze." This share has recovered since the early 1960's, but in 1965–66 it was still far below the late 1940's and early 1950's. The alternative measures also show the "profits squeeze," but to a lesser degree than the NIA series. They all stood closer in 1965–66 to the shares of corporate prod-

CHART 6

Changes in Ratio of Profits to Output for Nonfinancial Corporations: NIA vs. Alternatives

- From the early postwar (1948-52) to 1965-66, all of the ratios show decreases, but the NIA ratio declines most
- From 1929 to 1965-66, the NIA ratio declines but the alternatives increase

See notes on table 2.
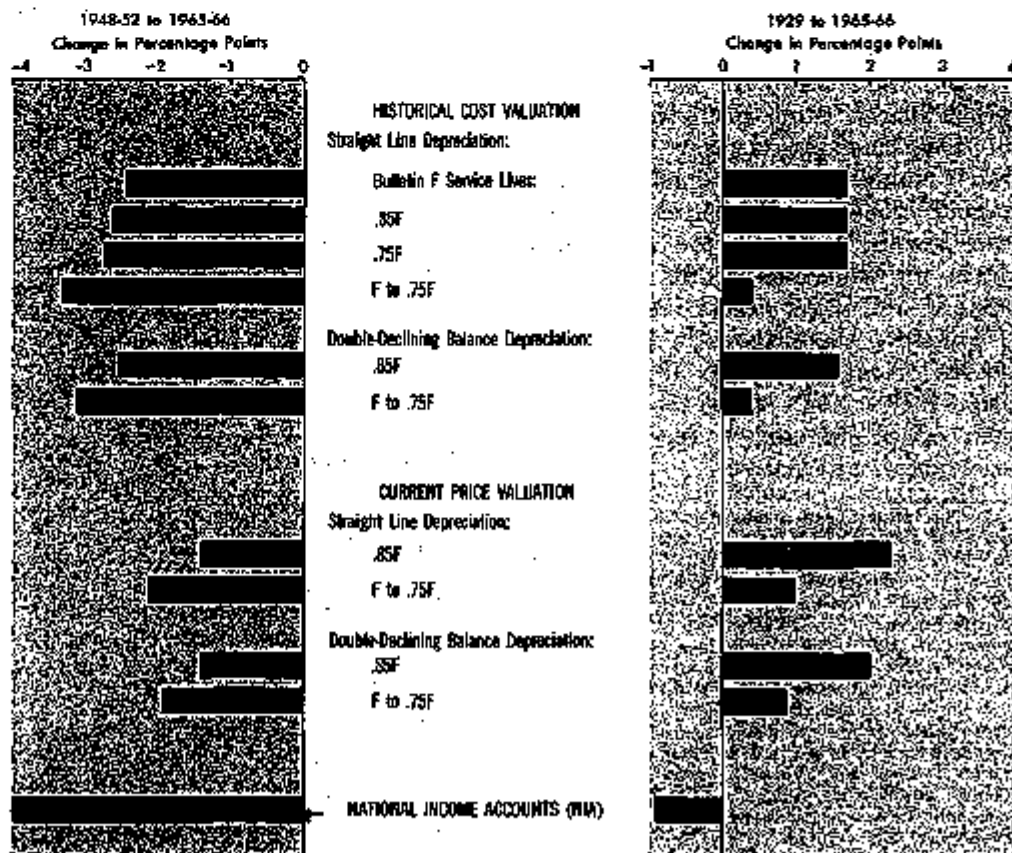
uct of the late 1940's and early 1950's than did the NIA measure.[2]

The 1965–66 share of before-tax corporate profits in corporate product was slightly less than in 1929, according to NIA definitions, but larger according to the alternative measures. From the partial information that is available it appears that about the same results would be obtained if 1926, the previous peak, were substitued for 1929. If 1965–66 is compared with the average for the second half of the 1920's, it appears that the NIA profits share in 1965–66 would be slightly above the earlier period and that the alternative measures would show stronger increases than when 1929 is used.

The standings of the profits share according to NIA definitions and the alternative definitions are summarized in table 2. Shown in the table are the figures for 1929 and averages for four post-World War II periods—1948–52, 1953–57, 1958–62, and 1965–66. The postwar periods were selected to provide useful analytical groupings of the annual figures. The first period includes the postwar high in the profits share that occurred in 1950 and the adjacent years, which also were years of high profit shares. After declining sharply in 1958 the profits share remained fairly stable in the period 1953–57. The period 1958–62 encompasses the postwar low in 1958 and the subsequent years in which the profits share remained well below earlier levels. Chart 6 compares the changes in the profits shares from 1948–52 to 1965–66 and from 1929 to 1965–66 for the NIA version of profits and a representative selection of alternatives.

2. The latest figures included in this article are those for 1966. According to preliminary estimates for 1967, before-tax profits (plus IVA) of nonfinancial corporations declined from $70 billion in 1966 to $66 billion in 1967 and, as a share of corporate product, from 16.9 percent in 1966 to 15.3 percent in 1967. The alternatives have not been computed for 1967, but it is apparent that they would decline about the same amount.

3. A more thorough discussion of estimating depreciation within the framework of the national accounts may be found in *A Critique of the United States Income and Product Accounts*, Studies in Income and Wealth, Vol. 22, National Bureau of Economic Research, 1958. See especially the papers by George Jaszi, pp. 85–91, and Everett E. Hagen and Edward C. Budd, pp. 252–263. Also see Edward F. Denison, "Theoretical Aspects of Quality Change, Capital Consumption, and Net Capital Formation," *Problems of Capital Formation*, Studies in Income and Wealth, Vol. 19, National Bureau of Economic Research, 1957, pp. 215–261.

Alternative Measures of Depreciation

THIS section briefly reviews the considerations underlying the selection of the various depreciation measures presented in the article. The assumptions as to actual service lives, the selection of depreciation formulas, and the revaluation of depreciation to current prices are discussed in turn.[3]

Service lives

There is little direct evidence as to actual service lives. They have often been assumed to be equal to the service lives in the 1942 edition of Bulletin F. Another view is that actual service lives have been shorter than Bulletin F lives, at least in the period after World War II. The rationale for this view is the fact that tax service lives were substantially shorter than Bulletin F in the 1950's, and that IRS generally required business to maintain an approximate equality between tax and actual service lives.

Some evidence suggests that actual lives are longer than tax lives. Corporations have carried substantial amounts of fully depreciated property on their books. Recent evidence of a possible discrepancy between actual and tax lives is contained in the National Industrial Conference Board study of the reserve ratio test, which is discussed in the appendix in part I.

For the present study, alternative service lives based on four assumptions were used. Three of the assumptions were that actual service lives have been constant at Bulletin F, at 85 percent of Bulletin F (abbreviated .85F), and at 75 percent of Bulletin F (abbreviated .75F). The fourth assumption is that actual service lives were at 100 percent of Bulletin F lives through 1940 then gradually declined linearly to 75 percent of Bulletin F in 1960 and thereafter.

The Bulletin F lives were included in the present study because they have been used in many other studies. Their use since World War II implies a large difference between actual and tax service lives—probably larger than can be accounted for by the existence of fully depreciated assets. The service lives that are .85F were considered to be

Table 2.—Profits Before Taxes [1] as Percent of Gross Product of Nonfinancial Corporations: National Income Accounts Definition Compared With Profits Based on Alternative Methods of Depreciation, Selected Periods

	Averages					Differences					
	1929 (1)	1948–52 (2)	1953–57 (3)	1958–62 (4)	1965–66 (5)	(2–1)	(3–2)	(4–3)	(5–4)	(5–2)	(5–1)
National income accounts (NIA)	17.6	20.9	17.1	14.9	16.9	3.1	−3.8	−2.2	2.0	−4.0	−.9
Alternative methods of depreciation:											
Historical cost valuation:											
Straight line depreciation:											
F service lives	17.1	21.2	18.5	16.8	18.2	4.1	−2.7	−1.7	2.0	−2.4	1.7
.85F service lives	16.5	20.8	18.1	16.2	18.2	4.3	−2.7	−1.9	2.0	−2.6	1.7
.75F service lives	16.1	20.5	17.7	15.8	17.8	4.4	−2.8	−1.9	2.0	−2.7	1.7
F to .75F service lives	17.1	20.8	17.9	15.8	17.5	3.7	−2.9	−2.1	1.7	−3.3	.4
Double-declining balance depreciation:											
.85F service lives	14.6	19.7	17.0	15.3	17.2	4.1	−2.7	−1.7	1.9	−2.5	1.5
F to .75F service lives	14.2	19.7	16.8	14.8	16.6	3.5	−2.9	−2.0	1.8	−3.1	.4
Current price (I) valuation:											
Straight line depreciation:											
.85F service lives	14.8	18.5	15.9	14.3	17.1	3.7	−2.6	−1.6	2.8	−1.4	2.3
F to .75F service lives	15.2	18.3	15.5	13.5	16.2	3.1	−2.8	−2.0	2.7	−2.1	1.0
Double-declining balance depreciation:											
.85F service lives	14.3	17.7	15.3	13.7	16.3	3.4	−2.4	−1.6	2.6	−1.4	2.0
F to .75F service lives	14.7	17.5	14.8	13.0	15.6	2.8	−2.7	−1.8	2.6	−1.9	.9

1. Includes IVA. Excludes profits originating in the rest of the world and profits on residential properties owned by nonfinancial corporations.

NOTE: Service life alternatives are 100 percent, 85 percent, and 75 percent of Bulletin F lives, and 100 percent of Bulletin F lives through 1940, then gradually declining to 75 percent of Bulletin F in 1960 and thereafter.

Source: U.S. Department of Commerce, Office of Business Economics.

close approximations to actual service lives according to the Capital Stock Study.[4] The service lives that are .75F approximate the tax lives used for new investment in 1954–59, as estimated from studies conducted by IRS.

The fourth assumption—declining service lives—allows for the possibility that actual service lives may now be shorter than they were 10 to 20 years ago. The reduction in lives assumed in this section is very similar to the pattern that provided the closest approximation to tax depreciation in part I. The decline is only one of several that might be assumed; however, the results that would be obtained with the use of other reasonable assumptions would not be much different.

Depreciation formulas

There is little information on how depreciation should be spread over the service life of an asset. The decline in value of an asset is determined chiefly by the impact of obsolescence and physical wear and tear on the asset. It is generally assumed that these two factors result in a more rapid decline in value in the early years of an asset's life than the straight line formula provides. The effects of these factors are frequently assumed to occur at a constant rate. Although the assumption of a constant rate leads to the choice of the declining balance formula for calculating depreciation, it does not determine the appropriate rate. That is, we do not know whether the rate should be 1½, 2, or 3 times the percentage taken by the straight line formula in the first year, or some other proportion, and whether it should be the same for all types of assets. Another controversial question involved in establishing the pattern of depreciation charges is whether the future services of assets should be discounted.[5] Discounting lowers the depreciation rate in the first years and raises it in the last years of the service life.

Two depreciation formulas, the straight line and the double-declining balance formula, were chosen for the study. Neither of these alternatives includes an allowance for a discount factor.

Valuation in current prices

Tax depreciation is valued in terms of original cost, but for many purposes,

CHART 7

Depreciation and Profits of Nonfinancial Corporations

— National income accounts (NIA)

-- Double-declining balance depreciation, F to .75F service lives, current price valuation (highest alternative)

-· Straight line depreciation, Bulletin F service lives, historical cost valuation (lowest alternative)

Billion $ (ratio scale)

See notes on table 2.

U.S. Department of Commerce, Office of Business Economics   63-5-7

particularly national income accounting, depreciation valued in current prices is preferred.[6] For this study, both original cost and current price valuations were prepared. When depreciation of capital is valued at current prices and profits are adjusted accordingly, these items are expressed in the same terms as other components of national income and product. Depreciation in current prices is obtained by adjusting for the change in the price of capital goods between the year in which the investment occurred and the year in which the depreciation deduction on the investment is taken. In the case of equipment, this procedure measures the resources required to replace used-up assets with identical assets.[7]

Because of deficiencies in the official price indexes used for structures, the depreciation charge for structures overstates the resources required to replace used-up assets with identical assets. The official price indexes essentially measure the price of inputs to the construction industry rather than output prices. To the extent that there have been efficiencies in input use that have not been reflected in construction price indexes, the depreciation charge valued in current prices will be more than is necessary to replace used-up assets with identical assets.[8] In an attempt to allow for this problem, the alternative price indexes from the Capital Stock Study were used as well as the official indexes. The alternatives show less rise than the official price indexes. The valuations based on the official price indexes and those based on the alternative price in-
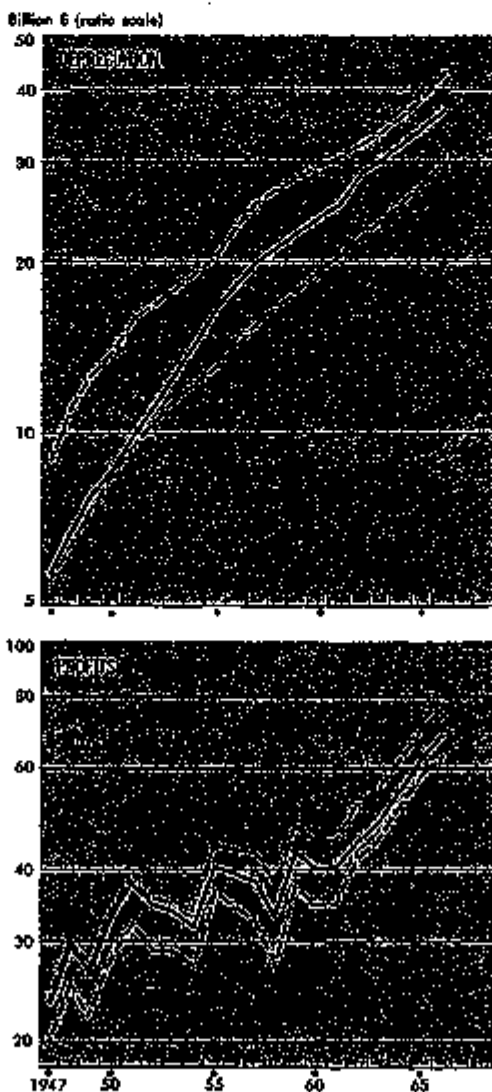
4. Lawrence Grose, Irving Rottenberg, Robert C. Wasson, "New Estimates of Fixed Business Capital in the United States 1925–65," SURVEY OF CURRENT BUSINESS, December 1966.

5. See the references in footnote 3, and also George Terborgh, Realistic Depreciation Policy, Machinery and Allied Products Institute, 1954.

6. A somewhat similar adjustment is made for inventory investment in the national income and product accounts. The change in the book value of business inventories and book profits are adjusted to put inventories used up on a current replacement cost basis.

7. The concept of capital stock involved here is that of capital measured by its cost of replacement. Alternatively, it is sometimes suggested that capital be measured by its productive capacity. Because of the increases over time in the efficiency of capital goods, the depreciation charges arising from the first concept exceed the resources required to replace used-up assets with new assets of equal productive capacity. These concepts are discussed more fully in Edward F. Denison, op. cit., especially pp. 223–234.

8. This point is discussed in George Jaszi, Robert C. Wasson, Lawrence Grose, "Expansion of Fixed Business Capital in the United States," SURVEY OF CURRENT BUSINESS, November 1962.

dexes are identified as (1) and (2) respectively in the tables.

The salient differences in the computed depreciation variants in the postwar years and in 1929 are summarized in table 3. The 20 depreciation variants selected for table 3 are reduced in number elsewhere in the article.

The effect of varying the service lives is roughly the same for all combinations of depreciation methods and valuations. The full range of service life options, therefore, is shown only for one combination—straight line depreciation valued at historical cost. The selection is reduced to three options—F,

.85F, and F to .75F—for straight-line depreciation valued at current prices (1), and to two options— .85F and F to .75F—for double-declining balance depreciation valued at historical cost and at current prices (1). Since the results show that the use of the alternative price indexes for structures has little effect, the only current price (2) variants included in the tables are those based on .85F service lives.

In order to avoid repetition, the discussion of the depreciation variants is combined with the discussion of profits in the next section.

Alternative Measures of Corporate Profits

In the NIA version of corporate profits—as in IRS data—tax depreciation is deducted from gross profits in arriving at profits before taxes. The effects of the alternative measures of depreciation on profits may be obtained simply by deducting the alternative measures from the sum of capital consumption allowances and before-tax profits. This section first compares in summary fashion for the post-World War II period the alternatives obtained in this manner with NIA profits and then considers some of the alternatives more fully. The section concludes by extending the comparisons back to the 1920's and by briefly considering after-tax profits and property income (profits plus net interest).

Summary, 1948 to 1966

All of the alternative measures of before-tax profits, both in dollar amounts and as shares of corporate product, display the same pattern found in NIA profits in the period after World War II. This is so even though the substitution of some of the alternative depreciation variants has a substantial effect on the level of dollar profits and to some extent strengthens the upward trend in profits.

Table 3.—National Income Accounts Depreciation,[1] Alternative Measures of Depreciation, and Alternatives as a Percent of National Income Accounts Depreciation, Nonfinancial Corporations, Selected Years

	1929	1948	1958	1959	1963	1966	Ratio 1966/1929	Ratio 1966/1948
National income accounts (NIA) (billion $)	4.1	5.8	12.8	21.3	28.8	37.6	9.0	6.4
Alternative methods of depreciation (billions of dollars)								
Historical cost valuation:								
Straight line depreciation:								
F service lives	4.4	5.4	11.4	16.7	21.3	30.8	6.8	4.7
.85F service lives	4.7	5.7	12.1	18.1	26.5	32.1	6.8	4.9
.75F service lives	4.9	7.0	12.9	19.1	24.8	33.9	6.9	4.8
F to .75F service lives	4.4	5.7	12.3	18.9	25.3	34.3	7.9	5.2
Double-declining balance depreciation:								
F service lives	4.9	7.7	13.3	19.4	24.7	34.9	7.0	4.5
.85F service lives	5.3	8.1	14.1	20.6	26.2	34.3	7.0	4.3
.75F service lives	5.4	8.5	14.7	21.6	27.3	37.8	7.1	4.5
F to .75F service lives	4.9	8.0	14.3	21.6	27.9	38.6	7.9	4.8
Current price (1) valuation:								
Straight line depreciation:								
F service lives	5.4	9.9	15.3	23.0	27.1	35.0	6.5	3.5
.85F service lives	5.6	10.0	16.2	24.8	28.1	36.7	6.6	3.7
.75F service lives	5.7	10.1	16.6	24.5	29.0	37.9	6.6	3.8
F to .75F service lives	5.4	10.2	16.9	24.4	32.7	40.1	7.5	3.9
Double-declining balance depreciation:								
F service lives	5.8	10.7	17.0	24.7	29.9	38.5	6.8	3.6
.85F service lives	5.8	11.0	17.5	25.5	70.9	40.0	6.9	3.6
.75F service lives	5.9	11.2	17.9	29.0	34.5	41.2	6.9	3.7
F to .75F service lives	5.8	11.1	18.1	27.0	32.1	42.9	7.8	3.9
Current price (2) valuation:								
Straight line depreciation:								
.85F service lives	5.4	9.8	16.0	23.3	27.5	33.0	6.0	3.7
F to .75F service lives	5.2	9.9	16.6	24.8	30.9	36.4	7.0	4.0
Double-declining balance depreciation:								
.85F service lives	5.7	10.7	17.3	25.0	29.2	39.6	7.0	3.7
F to .75F service lives	5.5	10.9	17.9	26.5	31.5	41.3	7.7	3.8
Alternative methods of depreciation as percent of NIA								
Historical cost valuation:								
Straight line depreciation:								
F service lives	107.5	93.3	88.7	78.7	73.5	80.7		
.85F service lives	115.0	98.2	94.9	84.9	83.4	85.9		
.75F service lives	120.2	102.2	99.9	89.7	86.0	91.0		
F to .75F service lives	107.5	97.2	95.9	88.0	87.8	94.1		
Double-declining balance depreciation:								
F service lives	119.3	111.6	103.3	91.3	85.7	92.6		
.85F service lives	126.7	113.3	110.0	97.1	90.7	98.1		
.75F service lives	130.3	129.6	114.9	101.4	94.5	102.3		
F to .75F service lives	119.3	117.1	111.5	101.6	96.7	104.5		
Current price (1) valuation:								
Straight line depreciation:								
F service lives	130.6	144.6	123.7	108.0	93.8	94.8		
.85F service lives	136.1	145.1	127.0	112.1	97.5	99.2		
.75F service lives	139.5	147.4	139.7	115.2	100.5	102.6		
F to .75F service lives	130.6	149.1	141.7	119.5	108.6	108.6		
Double-declining balance depreciation:								
F service lives	137.0	158.7	133.1	116.3	100.2	104.1		
.85F service lives	141.7	160.2	138.6	119.8	105.2	108.2		
.75F service lives	144.6	153.0	139.4	122.5	105.7	111.4		
F to .75F service lives	137.0	162.6	141.3	127.0	112.2	118.1		
Current price (2) valuation:								
Straight line depreciation:								
.85F service lives	132.4	142.4	125.3	109.7	95.4	97.4		
F to .75F service lives	128.9	144.7	129.5	116.8	104.1	106.5		
Double-declining balance depreciation:								
.85F service lives	138.2	155.9	135.1	117.6	101.4	106.6		
F to .75F service lives	133.5	158.5	139.5	124.5	109.1	114.4		

1. Excludes depreciation on residential properties owned by nonfinancial corporations.

NOTE: See note to table 2 concerning service lives.

Source: U.S. Department of Commerce, Office of Business Economics.

During the 1950's, the level of NIA profits showed a slow rise punctuated by three cyclical contractions following peaks reached in 1951, 1955, and 1959. Each of the first two peaks was followed by 3 years of declining profits resulting in troughs in 1954 and 1958. After the 1959 peak, profits declined in 1960, showed no change in 1961, and posted a vigorous and uninterrupted expansion from 1961 to 1966. (See footnote 2 for 1967 figures.)

Although showing the same cyclical pattern, the alternatives increase more rapidly over the postwar period than the NIA series. Most of the alternatives started from a lower level in the late 1940's. According to NIA definitions, before-tax profits of nonfinancial corporations (excluding profits originating from the ownership of residential properties) amounted to $29½ billion in 1948. The alternatives ranged from $25¼ billion to $30 billion in 1948, and all increased more rapidly than NIA profits during the 1950's. In the mid-fifties, all of the measures based on historical cost depreciation were above NIA profits; in 1962, some of the measures based on current price depreciation moved above NIA profits. Since 1962, the NIA series has remained below all but one of the measures based on historical cost depreciation and below some of the current price measures. In 1966, NIA before-tax profits amounted to $69 billion. The alternatives based on historical cost depreciation ranged from $67 billion to $76 billion; those based on current price depreciation from $63 billion to $71 billion (table 4, chart 7).

As a share of corporate product, profits according to NIA definitions declined during the 1950's, since the slowly rising level of profits in the 1950's did not keep pace with the growth in corporate product. Each successive peak found profits a smaller share of corporate product; moreover, at the 1958 trough, profits were a smaller share than in 1954. This pattern of reduced shares was often referred to as the "profits squeeze." However, in the late 1950's and early 1960's, the share of profits stabilized, and it has recovered since then. Even so, in 1966, the profits share was still below the share

Ratio of Profits to Output of Nonfinancial Corporations

NIA vs. alternatives based on historical cost depreciation

• NIA vs. alternatives based on current price (1) depreciation
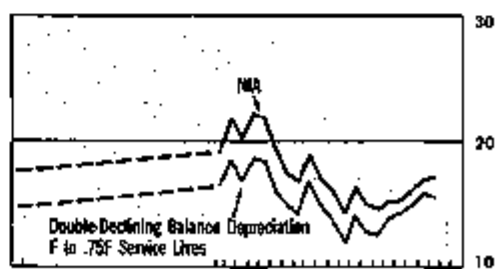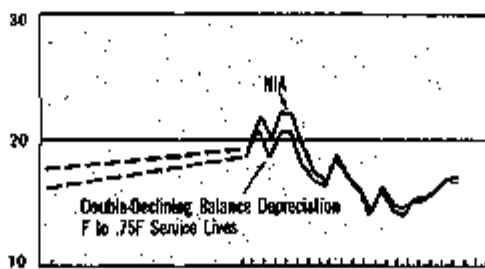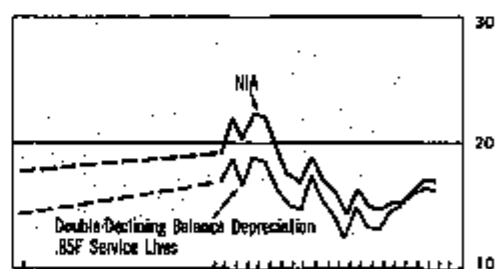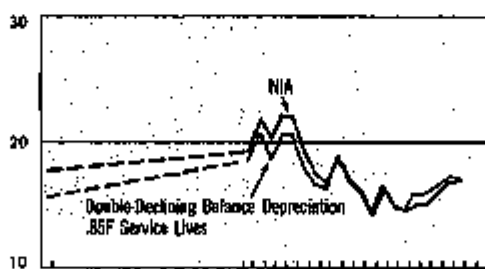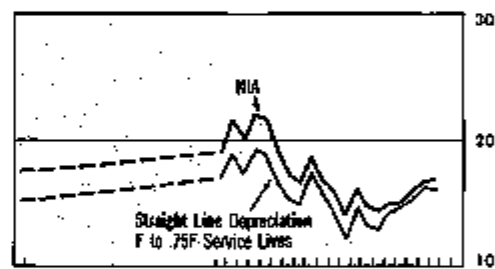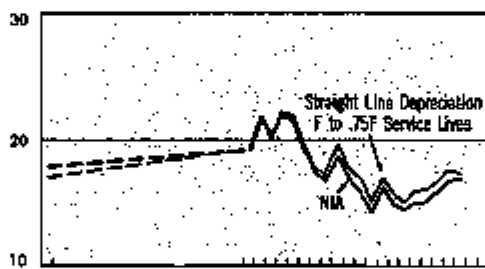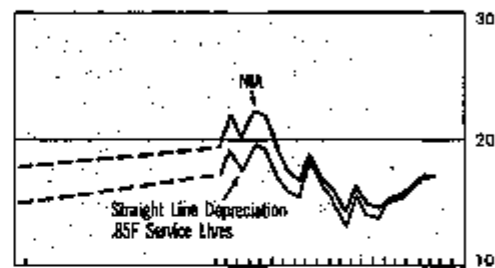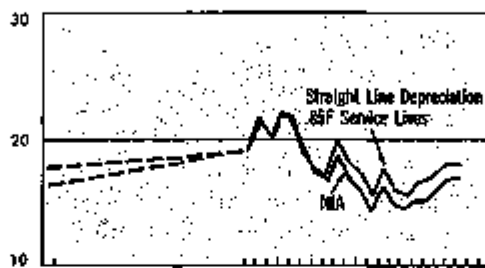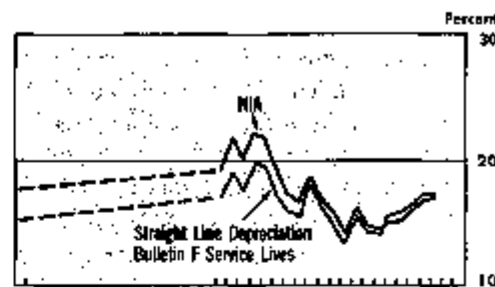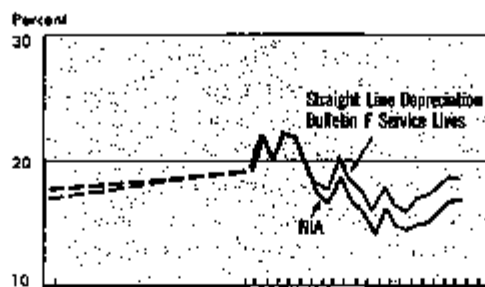
See notes on table 2.

at the 1955 peak and far below the ratios in the early 1950's.

As chart 8 shows, the "profits squeeze" also occurred with the alternative measures of profits in the 1950's, but less than in the NIA series. The alternatives based on depreciation valued at current prices also show larger increases since the late 1950's than the NIA series. As a result, the alternative profits shares, especially those based on depreciation valued at current prices in 1966, were closer to the positions in the early 1950's than was the NIA series.

It is important to point out that the years 1948–52 should not be considered the norm against which subsequent profits should be judged. The early postwar years were years of excess demand because of the backlogs carried over from the depression and war. In addition, it was a period when depreciation charges were relatively low because the stock of capital was abnormally low and was valued largely at prewar prices.

Profits With Historical Cost Depreciation

Corporate profits based on straight line depreciation with Bulletin F service lives and historical cost valuation were about the same level as NIA profits in the immediate postwar period but have run above NIA profits since then. The difference in level in these two series is due to the changes in depreciation practices examined in part I. However, the difference is not exactly the same as the total effect of changes in practices shown in part I because the figures in this part do not include profits of financial corporations but do include profits of farms.

As a percent of gross corporate product, NIA profits declined 6 points, from an average of 21 percent in 1948–52 to an average of 15 percent in 1958–62 (table 2). In comparison, the profits share based on straight line depreciation and Bulletin F service lives declined 4½ points from 21¼ percent in 1948–52

to 16¾ percent in 1958–62. Both series increased 2 points from 1958–62 to 1965–66 with the result that the alternative series at 18¾ percent in 1965–66 was about 2½ points below its 1948–52 position while the NIA series at 17 percent was 4 points below.

Varying service lives

The effect of shorter service lives in the postwar period is to increase depreciation and to reduce profits. On the average for the postwar period, the profits share based on constant .85F service lives and straight line depreciation was about ¼ point less than the share based on Bulletin F service lives. The share based on .75F service lives in turn was about ¼ point below the share based on .85F service lives. However, although the profits shares based on constant service lives shorter than Bulletin F have been smaller, the movements in these series closely parallel those in the share based on Bulletin F service lives.

Table 4.—Profits Before Taxes [1] and Profits Before Taxes as Percent of Gross Product of Nonfinancial Corporations:
[Billions of dollars]

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
1	Corporate profits, national income accounts (NIA)	9.9	5.4	1.9	−1.4	−1.8	1.2	2.8	4.7	5.3	3.9	5.3	8.6	14.0	15.9
2	Percent of gross corporate product	17.2	14.3	5.4	−5.7	−6.3	4.4	8.2	12.0	12.0	9.6	12.2	17.1	21.3	22.6
3	Corporate profits plus depreciation, national income accounts (NIA)	13.4	10.4	6.1	2.5	2.2	4.5	6.3	8.2	9.4	7.6	9.0	12.3	18.1	21.9
4	Percent of gross corporate product	23.6	28.7	17.6	9.0	6.9	16.9	18.6	20.9	20.9	18.9	20.5	24.5	27.6	28.8
	Alternative methods of depreciation:														
	Historical cost valuation:														
5	Straight line depreciation, F service lives	8.6	6.0	1.6	−2.0	−2.1	.7	2.2	4.1	5.1	3.1	4.6	7.9	13.5	19.2
6	Percent of gross corporate product	17.1	13.6	4.5	−7.8	−8.7	2.4	6.5	10.3	11.3	7.6	10.5	16.7	20.6	23.1
7	Straight line depreciation, .85F service lives	8.3	5.7	1.3	−2.2	−2.3	.6	2.0	3.9	4.9	3.0	4.6	7.8	13.4	19.1
8	Percent of gross corporate product	16.5	12.9	3.6	−8.6	−9.6	1.9	6.0	9.9	11.0	7.5	10.3	16.5	20.4	22.0
9	Straight line depreciation, .75F service lives	8.1	5.5	1.1	−2.4	−2.5	.4	2.0	3.8	4.7	2.9	4.3	7.8	13.4	19.1
10	Percent of gross corporate product	16.1	12.3	3.1	−9.4	−10.3	1.4	5.7	9.7	10.5	7.4	10.3	15.5	20.4	23.0
11	Straight line depreciation, F to .75F service lives	8.6	6.0	1.6	−2.0	−2.0	.7	2.2	4.1	5.1	3.1	4.6	7.9	13.5	19.2
12	Percent of gross corporate product	17.1	13.6	4.5	−7.8	−8.7	2.4	6.5	10.3	11.3	7.6	10.5	15.7	20.6	23.1
13	Double-declining balance depreciation, .85F service lives	7.8	5.3	1.0	−2.2	−2.2	.7	2.5	4.1	5.1	3.1	4.6	7.9	12.4	19.1
14	Percent of gross corporate product	15.6	11.9	3.0	−8.9	−9.1	2.4	6.5	10.4	11.3	7.9	10.6	15.6	20.4	23.0
15	Double-declining balance depreciation, F to .75F service lives	8.1	5.6	1.2	−2.1	−2.1	.8	2.3	4.1	5.1	3.2	4.7	7.9	13.4	19.1
16	Percent of gross corporate product	16.2	12.6	3.6	−8.8	−8.7	2.6	6.8	10.5	11.6	8.0	10.7	15.7	20.5	23.1
	Current price (I) valuation:														
17	Straight line depreciation, F service lives	7.6	5.3	1.2	−1.8	−2.0	.7	2.1	3.9	4.5	2.6	4.1	7.3	12.7	17.7
18	Percent of gross corporate product	15.2	12.0	3.5	−7.3	−8.0	2.2	6.0	9.9	10.1	6.5	9.5	14.6	19.3	21.4
19	Straight line depreciation, .85F service lives	7.4	5.1	1.0	−2.0	−2.0	.6	2.0	3.8	4.5	2.5	4.1	7.4	12.7	17.6
20	Percent of gross corporate product	14.8	11.6	3.0	−7.8	−8.4	2.0	5.9	9.8	10.0	6.4	9.5	14.6	19.3	21.4
21	Straight line depreciation, F to .75F service lives	7.6	5.3	1.2	−1.8	−2.0	.7	2.1	3.9	4.5	2.6	4.1	7.3	12.7	17.7
22	Percent of gross corporate product	15.2	12.0	3.5	−7.3	−8.0	2.3	6.0	9.9	10.1	6.5	9.5	14.6	19.3	21.4
23	Double-declining balance depreciation, .85F service lives	7.2	4.9	1.0	−1.8	−1.8	.9	2.3	4.1	4.7	2.8	4.4	7.5	12.7	17.9
24	Percent of gross corporate product	14.5	11.1	2.9	−7.3	−7.6	2.8	6.5	10.3	10.5	7.0	10.0	14.9	19.4	21.5
25	Double-declining balance depreciation, F to .75F service lives	7.4	5.1	1.1	−1.8	−1.8	.9	2.3	4.1	4.7	2.7	4.2	7.5	12.7	17.9
26	Percent of gross corporate product	14.7	11.5	3.2	−7.1	−7.5	2.8	6.6	10.3	10.6	6.9	9.6	14.9	19.4	21.6
	Current price (3) valuation:														
27	Straight line depreciation, .85F service lives	7.6	5.3	1.2	−1.8	−2.0	.7	2.1	3.9	4.7	2.7	4.3	7.6	12.8	17.8
28	Percent of gross corporate product	15.1	11.9	3.4	−7.3	−8.2	2.2	6.1	9.8	10.4	6.9	9.9	15.0	19.5	21.5
29	Double-declining balance depreciation, .85F service lives	7.3	5.1	1.1	−1.7	−1.8	.9	2.5	4.1	4.6	2.9	4.5	7.7	12.8	18.0
30	Percent of gross corporate product	14.6	11.4	3.2	−7.0	−7.5	3.0	6.6	10.4	10.7	7.4	10.3	15.2	19.6	21.7
31	Gross corporate product	50.1	44.6	34.8	26.1	24.4	30.7	34.2	39.3	44.9	39.6	43.7	50.4	65.6	82.8

1. See notes to table 2.   Source: U.S. Department of Commerce, Office of Business Economics.

The effect of the gradually declining service lives, from 100 percent of Bulletin F in 1940 to .75F in 1960, is to retard the rate of increase in profits as compared with profits based on constant service lives. As a result, the movements in this share fall between the movements in the shares based on constant service lives and the NIA share. In 1965–66, the share based on gradually declining services lives was 3¼ points below its 1948–52 position as compared with shortfalls of 2½ points in the shares based on constant service lives and 4 points in the NIA share.

Double-declining vs. straight line

In comparison with straight line depreciation, the use of the double-declining balance formula reduces profits in the postwar period. While the profits shares based on double-declining balance depreciation have averaged about 1 point below the corresponding shares based on straight line depreciation in the postwar period, the movements in the shares have been almost exactly the same as those based on straight line depreciation.

Profits With Current Price Depreciation

Since World War II, profits based on depreciation valued at current prices have generally been lower than those based on historical cost depreciation. The effect of valuing depreciation in current prices is particularly pronounced for the first part of this period when historical cost depreciation reflected the lower prewar level of prices at which most of the stock of capital goods was still valued. In 1948, the depreciation variants valued at current prices were abut 40 to 50 percent above the corresponding historical cost variants. The difference steadily decreased as much of the prewar stock was replaced and the rate of increase in investment goods prices tapered off in the 1950's. In 1966, the difference between current and historical cost depreciation was about 10 to 15 percent (chart 9).

The question of whether business should be permitted to claim depreciation valued at current prices has been the subject of considerable discussion. Assuming the same income tax rates, current price valuation of depreciation in the years since World War II would have substantially reduced the amount of tax on corporate profits and increased corporate cash flow. Since the midfifties, this question has perhaps become less pressing. As was shown above, the difference between depreciation valued at historical cost and current prices has become smaller. Also, the liberalizations in depreciation practices have reduced profits and increased cash flow by about as much as would have been achieved by the adoption of current price valuation without the reductions in service lives or the use of accelerated methods. As may be seen in chart 8, by the late 1950's, the changes in depreciation practices had almost reduced NIA profits to the level of profits based on current price depreciation computed with the straight line formula and .85F service lives, and beginning in 1962, the changes in practices

National Income Accounts Definition Compared With Profits Based on Alternative Methods of Depreciation, 1929–66

[Billions of dollars]

1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	Line

moved NIA profits below this computed alternative. Although this comparison is interesting, it should not be pressed too far. The case for current price valuation has not been based on the same grounds as the case for changes in service lives and in depreciation methods; some proponents of depreciation reform have advocated both types of changes.[9]

As a percent of gross corporate product, profits based on current price depreciation in 1965–66 were closer to their earlier highs in 1948–52 than the shares based on historical cost depreciation. The shares based on current price depreciation—both straight line and double-declining balance—with .85F service lives were about 1½ points below 1948–52. This may be compared

9. Several viewpoints concerning the adjustment of tax depreciation for changes in the price level are presented in U.S. Congress, House Committee on Ways and Means, *Tax Revision Compendium*, Vol. 2, November 16, 1959, Government Printing Office, 1959, pp. 793–932.

with the 2½ point differences in the shares based on historical cost depreciation and with the 4 point shortfall in the NIA share. As with historical cost valuation, the movements in the profits shares based on depreciation with changing service lives and current price valuation tend to fall between the movements in the shares based on constant service lives and the NIA share. In 1965–66, they were about 2 points below their 1948–52 positions.

Other Comparisons

The detailed discussion thus far has been confined to the postwar period. However, there is some merit in evaluating profits in a longer time perspective by reference to profits in the late 1920's.

The alternative measures of profits for 1965–66 compare more favorably

with 1929 than do NIA profits for 1965–66. As a share of corporate product, the alternatives were all above their positions in 1929 while NIA profits were slightly below. From 1929 to 1965–66, the NIA profits share declined 1 point. The alternative measures based on historical cost valuation and constant service lives increased about 1½ points; those based on gradually declining service lives increased ½ point. The shares based on depreciation valued at current prices increased more than the shares based on the corresponding historical cost variants; in current prices, those based on constant service lives increased 2 to 2½ points and those based on gradually declining service lives, 1 point.

It should be noted that the comparisons with 1929 are not as solidly based as those involving only years after World War II. There are some unresolved questions concerning the alternative estimates of profits for 1929

Table 5.—Profits After Taxes[1] and Profits After Taxes as Percent of Gross Product of Nonfinancial Corporations

[Billions of dollars]

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
1	Corporate profits, national income accounts (NIA)	7.7	5.4	1.4	−1.8	−2.0	0.7	1.9	3.4	4.4	2.9	4.0	5.9	4.5	7.7
2	Percent of gross corporate product	15.4	12.6	4.1	−7.0	−8.3	2.1	5.6	8.6	9.8	7.4	9.1	11.7	9.9	9.3
3	Corporate profits plus depreciation, national income accounts (NIA)	11.9	9.3	5.7	2.1	1.7	4.2	5.4	6.9	8.0	6.5	7.6	9.6	10.7	12.7
4	Percent of gross corporate product	23.7	21.1	16.3	6.5	6.8	13.7	16.0	17.8	17.7	16.5	17.4	19.1	16.2	15.3
	Alternative methods of depreciation:														
	Historical cost valuation:														
5	Straight line depreciation, F service lives	7.4	5.5	1.1	−2.3	−2.6	.0	1.3	2.7	3.7	2.2	3.2	5.1	5.1	8.0
6	Percent of gross corporate product	14.8	11.8	3.2	−9.1	−10.7	.1	3.9	7.0	8.3	5.6	7.4	10.2	9.2	9.7
7	Straight line depreciation, .85F service lives	7.2	5.0	.8	−2.5	−2.8	−.1	1.2	2.6	3.5	2.0	3.1	5.1	6.0	7.9
8	Percent of gross corporate product	14.2	11.2	2.3	−10.1	−11.5	−.5	3.4	6.6	7.6	5.1	7.1	10.1	9.1	9.6
9	Straight line depreciation, .75F service lives	6.9	4.7	.6	−2.7	−2.9	−.3	1.1	2.5	3.4	2.0	3.1	5.0	5.9	7.9
10	Percent of gross corporate product	13.8	10.6	1.5	−10.8	−12.0	−.8	3.1	6.4	7.7	5.0	7.1	10.0	9.0	9.5
11	Straight line depreciation, F to .75F service lives	7.4	5.3	1.1	−2.3	−2.6	.0	1.3	2.7	3.7	2.2	3.2	5.1	5.0	8.0
12	Percent of gross corporate product	14.8	11.8	3.2	−9.2	−10.7	.1	3.9	7.0	8.3	5.5	7.4	10.2	9.2	9.7
13	Double-declining balance depreciation, .85F service lives	6.7	4.6	.6	−2.6	−2.7	.0	1.4	2.8	3.5	2.2	3.3	5.1	5.0	7.9
14	Percent of gross corporate product	13.3	10.3	1.7	−10.3	−11.1	.1	4.0	7.0	8.1	5.5	7.5	10.2	9.0	9.6
15	Double-declining balance depreciation, F to .75F service lives	6.9	4.8	.9	−2.4	−2.8	.1	1.4	2.9	3.7	2.2	3.3	5.2	5.8	8.0
16	Percent of gross corporate product	13.9	10.8	2.3	−9.7	−10.7	.4	4.2	7.2	8.3	5.8	7.6	10.3	9.1	9.6
	Current price (1) valuation:														
17	Straight line depreciation, F service lives	6.5	4.9	.8	−2.3	−2.5	.0	1.2	2.6	3.1	1.6	2.8	4.6	5.3	6.8
18	Percent of gross corporate product	12.9	10.8	3.2	−8.7	−10.0	−.1	3.4	6.5	6.9	4.1	6.3	9.1	7.9	7.9
19	Straight line depreciation, .85F service lives	6.2	4.4	.6	−2.3	−2.5	−.1	1.1	2.5	3.1	1.6	2.8	4.0	5.3	6.6
20	Percent of gross corporate product	12.5	9.9	1.7	−9.1	−10.1	−.3	3.3	6.4	6.9	4.1	6.4	8.0	7.9	7.9
21	Straight line depreciation, F to .75F service lives	6.5	4.6	.8	−2.3	−2.5	.0	1.2	2.6	3.1	1.6	2.8	4.6	5.2	6.6
22	Percent of gross corporate product	12.9	10.8	2.2	−8.7	−10.0	−.1	3.4	6.5	6.9	4.1	6.3	9.1	7.9	7.9
23	Double-declining balance depreciation, .85F service lives	6.0	4.2	.5	−2.3	−2.3	.3	1.4	2.7	2.3	1.9	3.0	4.3	5.2	6.6
24	Percent of gross corporate product	12.0	9.4	1.5	−8.7	−9.6	.5	4.0	6.9	7.3	4.6	6.0	9.5	8.1	8.2
25	Double-declining balance depreciation, F to .75F service lives	6.2	4.4	.7	−2.1	−2.3	.2	1.4	2.7	3.3	1.9	3.0	4.6	5.5	6.7
26	Percent of gross corporate product	12.4	9.8	1.9	−8.5	−9.5	.5	4.0	6.9	7.3	4.5	6.8	9.4	8.0	8.1
	Current price (2) valuation:														
27	Straight line depreciation, .85F service lives	6.4	4.5	.7	−2.2	−2.5	.0	1.2	2.6	3.2	1.6	2.9	4.8	5.4	6.7
28	Percent of gross corporate product	12.8	10.3	2.1	−8.7	−10.2	−.1	3.5	6.5	7.2	4.3	6.7	9.5	8.2	8.0
29	Double-declining balance depreciation, .85F service lives	6.2	4.4	.7	−2.1	−2.3	.2	1.4	2.6	3.4	2.0	3.1	4.9	5.4	6.6
30	Percent of gross corporate product	12.3	9.6	1.9	−8.3	−9.5	.7	4.2	7.1	7.5	5.0	7.2	9.9	8.2	8.2
31	Gross corporate product	50.1	44.5	34.8	25.1	24.4	30.7	34.3	39.3	44.3	39.6	43.7	60.4	65.6	81.9

that are discussed in a technical note below. The 1929 profits share presented here is lower than that shown in the 1963 SURVEY article because of an upward revision in the estimate of corporate gross product. Aside from these technical points, it would be desirable to base the comparisons on several years in the 1920's instead of 1929 alone. The partial information that is available suggests that the 1929 profits share was about the same as it was at the preceding peak in 1926 and almost 2 percentage points above the average for 1925–29.[16] Substituting 1925–29 for 1929 in the comparison shifts the 1 point decline in the NIA share from 1929 to 1965–66 to an increase of almost 1 point and strengthens the increases shown in the alternative shares.

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10. Harlowe D. Osborne and Joseph B. Epstein, "Corporate Profits Since World War II," *Survey of Current Business*, January 1954.

Profits after taxes

Profits after taxes are shown in table 5. After-tax profits have not been emphasized in this article because they introduce another variable—changes in the tax rate—which must also be considered. After-tax profits were obtained by deducting the corporate profits tax as shown in the national accounts from each of the profits measures.

Because of the relatively higher level of taxes in the Korean war, the after-tax shares in 1965–66 compare more favorably with 1948–52 than do before-tax profits. Several alternatives increase from 1948–52 while the NIA after-tax share declines slightly. In contrast, because of the low level of taxes in 1929, both the NIA and alternative profits shares decline from 1929 to 1965–66.

Property income

The measures of profits presented in this article may be combined with net interest to obtain the share of property income in gross corporate product. Net interest as a percent of gross corporate product has displayed a pattern different from that shown by profits. In 1929, net interest expense of nonfinancial corporations amounted to 2.8 percent of corporate product. In 1948–52, the interest share was very low, averaging 0.7 percent, but by 1965–66, it averaged 1.6 percent. When net interest is added to profits, the resultant property shares based on computed depreciation show less change over the periods 1929 to 1965–66 and 1948–52 to 1965–66 than the profits shares alone. The property share according to NIA definitions also shows less change from 1948–52 to 1965–66 than the profits share, and the decline from 1929 to 1965–66 is accentuated by the addition of net interest.

Ratios to income originating

Since some analysts prefer to consider ratios of profits to income originating,

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National Income Accounts Definition Compared With Profits Based on Alternative Methods of Depreciation, 1929–66

[Billions of dollars]

1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	Line
9.0	9.1	7.6	8.1	12.3	17.7	17.2	18.7	16.9	14.9	15.4	16.0	20.4	19.3	18.3	17.1	23.9	20.7	20.4	24.8	25.6	30.7	35.3	38.8	1
9.1	9.1	7.4	8.2	18.3	12.9	13.0	12.1	9.7	9.3	7.9	8.4	9.5	8.4	8.0	7.2	8.8	7.8	7.4	8.8	8.0	9.0	9.5	9.6	2
14.2	16.3	12.4	12.7	19.8	24.6	25.0	25.4	26.5	29.1	29.2	30.5	37.4	37.6	39.5	29.4	44.6	44.5	45.4	52.5	55.9	62.4	68.9	76.0	3
14.5	15.0	14.0	12.9	18.1	17.9	18.8	16.7	15.4	15.5	14.6	15.9	17.3	16.3	16.4	16.2	17.0	16.4	18.4	17.5	17.6	18.3	18.7	18.6	4
9.7	10.8	8.8	7.9	12.6	16.2	17.6	18.8	17.8	17.6	16.8	18.3	24.2	22.3	23.9	21.6	26.8	25.5	25.1	31.0	32.8	37.8	42.6	48.2	5
9.8	10.5	9.2	8.0	10.5	13.3	13.2	11.1	10.0	9.7	8.7	9.6	11.2	10.1	9.9	9.2	10.2	8.4	9.1	10.8	10.2	11.0	11.4	11.8	6
8.6	10.7	8.7	7.8	12.4	17.8	17.3	18.3	16.7	16.9	16.0	17.4	23.2	22.2	22.6	20.3	25.4	24.1	22.6	29.3	30.9	35.9	40.5	46.0	7
8.8	10.5	9.2	7.9	10.3	13.0	12.9	10.7	9.6	9.3	8.3	9.1	10.7	9.6	9.4	8.6	9.7	8.9	8.5	9.7	9.7	10.5	10.9	10.7	8
8.6	10.6	8.7	7.8	12.7	17.6	16.8	15.8	16.1	16.3	15.4	16.7	22.4	21.3	21.6	19.3	24.3	22.9	22.3	28.0	29.4	34.4	39.0	43.1	9
8.8	10.5	9.2	7.8	10.2	12.8	12.8	10.4	9.3	8.0	7.9	8.7	10.4	9.2	9.0	8.2	9.3	8.4	8.0	9.3	9.3	10.0	10.4	10.3	10
8.7	10.7	8.7	7.8	12.4	17.9	17.2	16.3	16.7	16.8	15.9	17.2	22.8	21.7	21.9	19.5	24.3	22.7	21.8	27.5	28.7	33.7	38.1	41.2	11
9.8	10.6	9.1	7.9	10.4	16.4	13.1	12.9	10.6	9.3	8.2	9.0	10.6	9.4	9.1	8.3	8.3	8.4	7.8	9.1	8.6	9.8	10.2	10.1	12
9.7	10.8	8.7	7.4	11.5	16.5	15.5	14.6	14.9	15.1	14.1	15.4	21.0	19.8	21.0	17.7	22.8	21.1	20.8	26.7	27.9	32.8	37.0	39.7	13
9.9	10.5	9.1	7.6	9.8	12.0	11.6	9.6	8.5	8.3	7.3	8.1	9.7	8.6	8.3	7.5	8.7	7.8	7.5	8.9	8.8	9.6	9.9	9.7	14
9.7	10.8	8.7	7.4	11.5	16.6	15.0	14.5	14.8	14.9	13.9	15.1	20.5	19.3	19.2	16.8	21.7	19.9	19.3	24.0	25.1	30.0	34.5	37.4	15
9.9	10.5	9.1	7.5	9.7	12.1	11.7	9.6	8.5	8.2	7.2	7.9	9.5	8.3	8.0	7.1	8.8	7.3	7.0	8.3	8.2	9.0	9.2	9.1	16
8.1	8.2	7.2	5.9	9.7	14.7	14.1	13.2	12.9	13.1	13.3	14.6	19.7	18.0	17.7	15.4	20.5	19.6	19.6	25.8	27.0	32.0	37.5	41.8	17
8.2	9.0	7.5	5.9	9.1	14.7	10.0	8.7	7.4	7.2	6.4	7.3	9.1	7.3	7.3	6.6	7.8	7.2	7.1	8.8	8.7	9.6	10.1	10.0	18
8.2	9.2	7.3	6.0	9.7	14.6	13.9	12.0	12.6	13.7	11.9	13.6	19.1	17.2	16.8	14.6	19.7	18.7	18.6	24.7	26.5	31.7	36.4	39.5	19
8.3	9.1	7.7	6.0	8.1	10.6	10.4	8.6	7.2	7.0	6.1	7.1	8.9	7.8	7.0	8.2	7.6	7.6	6.7	8.2	8.3	9.3	9.2	9.6	20
8.1	9.2	7.1	5.8	9.5	14.4	13.6	12.6	13.2	12.2	11.3	12.8	18.2	16.1	15.6	13.0	17.3	16.6	16.3	22.1	28.7	28.8	33.2	35.9	21
8.2	9.0	7.5	5.8	8.0	10.6	10.2	8.4	7.0	6.7	5.8	6.7	6.4	7.0	5.4	5.5	6.8	6.1	5.3	7.3	7.3	8.4	8.0	8.0	22
9.6	9.7	7.6	5.9	9.3	13.6	12.7	11.7	11.3	10.7	12.2	13.7	15.8	12.0	13.1	17.0	19.9	21.0	24.6	25.7	35.4				23
8.7	9.3	8.0	5.8	7.7	9.9	9.5	7.7	8.5	6.4	5.5	6.4	5.2	6.8	6.2	6.5	6.9	6.2	6.1	7.7	7.8	6.6	8.0	8.8	24
8.5	9.6	7.6	5.7	8.1	13.4	12.5	11.4	10.9	11.1	10.1	11.5	16.8	14.5	13.7	11.4	10.4	15.0	14.5	20.7	22.3	27.0	31.0	33.1	25
8.8	9.4	7.3	5.8	7.6	9.8	9.4	7.6	4.3	6.1	5.2	6.0	7.8	6.3	6.7	4.8	6.2	5.5	5.3	6.9	7.0	7.0	8.3	8.1	26
8.2	9.3	7.3	5.0	9.5	14.8	14.2	15.2	12.8	12.9	12.1	13.5	19.4	17.6	17.8	15.0	20.5	19.5	19.3	25.3	27.1	32.4	37.1	40.0	27
8.8	9.1	7.7	5.1	8.2	10.8	10.5	8.7	7.8	7.1	6.3	7.2	9.0	7.6	7.2	6.4	7.7	7.1	7.0	8.4	8.5	9.4	9.9	9.8	28
8.9	9.7	7.6	5.9	9.3	13.8	13.0	12.0	11.5	11.7	10.9	12.6	18.0	15.9	15.5	12.4	16.7	17.6	17.5	23.6	25.2	30.1	34.3	36.5	29
8.7	9.6	7.9	5.0	7.7	10.1	9.8	7.9	6.6	6.4	5.6	6.6	8.3	6.9	6.4	5.7	7.1	6.5	6.3	7.8	7.9	8.9	9.2	8.9	30
98.7	102.1	95.4	99.1	119.0	126.0	122.1	151.4	174.0	181.7	194.3	191.0	215.7	230.6	241.1	235.2	262.5	271.9	274.5	301.1	317.3	343.3	373.8	406.4	31

Table 6.—Profits Before and After Taxes[1] and Profits Before and After Taxes as Percent of Income Originating in Nonfinancial Corporations:

[Billions of dollars]

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
1	Corporate profits before taxes, national income accounts (NIA)	8.9	4.4	1.3	-1.4	-1.5	1.3	2.8	4.7	5.8	2.9	5.3	8.4	14.0	18.9
2	Percent of corporate income originating	21.9	17.2	6.9	-8.0	-9.2	5.9	10.8	15.2	16.1	12.5	15.9	20.9	26.3	26.6
3	Corporate profits after taxes, national income accounts (NIA)	7.7	5.4	1.4	-1.6	-1.6	.7	1.9	3.4	4.4	2.8	4.0	5.9	8.5	7.7
4	Percent of corporate income originating	18.2	14.2	6.3	-9.9	-11.0	2.9	7.4	10.9	12.1	9.5	11.4	14.3	11.8	10.9
5	Corporate income originating	42.5	34.6	27.3	17.5	16.9	22.7	26.1	31.1	36.4	31.1	34.0	41.2	55.1	71.2

Alternative methods of depreciation:

Historical cost valuation:

Straight line depreciation, F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
6	Profits before taxes	8.5	4.0	1.6	-2.9	-4.1	.7	2.9	4.1	5.1	2.1	4.8	7.9	13.5	19.2
7	Percent of income originating	20.8	16.4	5.8	-11.3	-13.9	3.3	8.7	13.3	14.3	10.2	13.6	19.6	24.7	28.9
8	Profits after taxes	7.4	5.8	1.1	-2.3	-2.6	.9	1.9	2.7	3.7	2.2	3.2	5.1	6.1	8.0
9	Percent of income originating	17.5	14.4	4.1	-13.2	-16.0	.1	5.2	9.0	10.3	7.1	3.4	12.7	11.1	11.2
10	Income originating	42.1	25.6	27.9	17.4	16.2	22.1	26.5	30.4	35.5	30.3	34.2	40.5	54.6	71.4

Straight line depreciation, .85F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
11	Profits before taxes	3.3	5.7	1.3	-2.2	-2.9	.5	2.0	3.9	4.9	3.0	4.5	7.5	13.4	19.1
12	Percent of income originating	19.7	15.7	4.7	-12.9	-14.5	2.5	8.1	12.9	13.9	9.9	13.1	19.2	24.6	28.6
13	Profits after taxes	7.1	5.0	.9	-2.5	-2.8	-.1	1.2	2.6	3.5	2.0	3.1	5.1	6.0	7.9
14	Percent of income originating	17.0	13.7	3.0	-14.9	-17.5	-.7	4.8	8.5	9.9	6.7	9.1	12.5	10.9	11.7
15	Income originating	42.0	36.3	26.7	17.1	16.1	21.9	25.4	30.3	35.5	30.2	34.2	40.4	54.5	71.3

Straight line depreciation, .75F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
16	Profits before taxes	8.1	5.5	1.1	-2.4	-2.5	.4	2.0	3.8	4.9	2.9	4.5	7.5	13.4	19.1
17	Percent of income originating	19.3	15.2	4.0	-13.9	-15.4	2.0	7.7	12.7	13.8	9.7	13.1	19.3	24.5	28.7
18	Profits after taxes	6.9	4.7	.6	-2.7	-2.9	-.3	1.1	2.5	3.4	2.0	3.1	5.0	5.9	7.9
19	Percent of income originating	16.5	13.1	2.3	-16.0	-18.4	-1.2	4.3	8.5	9.7	6.6	9.1	12.5	10.9	11.1
20	Income originating	41.3	36.1	26.5	16.9	16.4	21.3	25.3	30.2	35.4	30.1	34.3	40.4	54.6	71.3

Straight line depreciation, F to .75F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
21	Profits before taxes	8.6	6.0	1.6	-2.0	-2.1	.7	3.2	4.1	5.1	3.1	4.8	7.9	13.5	19.2
22	Percent of income originating	20.3	16.4	5.7	-11.3	-13.0	3.3	8.7	13.3	14.3	10.2	13.4	19.5	24.7	28.8
23	Profits after taxes	7.4	5.3	1.1	-2.3	-2.6	.0	1.3	2.7	3.7	2.2	3.2	5.1	6.0	8.0
24	Percent of income originating	17.5	14.4	4.1	-13.3	-16.0	.1	5.2	9.0	10.3	7.1	9.4	12.7	11.1	11.2
25	Income originating	42.3	35.5	27.0	17.4	16.2	22.1	26.5	30.4	35.6	30.3	34.3	40.5	54.6	71.4

Double-declining balance depreciation, .85F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
26	Profits before taxes	7.8	4.3	1.0	-2.2	-2.2	.7	2.3	4.1	5.1	3.1	4.6	7.9	13.4	19.1
27	Percent of income originating	18.9	14.8	3.9	-13.1	-13.7	3.5	8.8	13.4	14.2	10.3	13.5	19.6	24.5	28.6
28	Profits after taxes	6.7	4.5	.6	-2.6	-2.7	.6	1.4	2.8	3.6	2.2	3.3	5.1	5.9	7.9
29	Percent of income originating	16.1	12.7	2.2	-15.2	-16.7	.2	5.3	9.0	10.2	7.1	9.5	12.7	10.9	11.7
30	Income originating	41.5	35.9	26.6	17.1	16.2	22.1	25.6	30.5	35.5	30.3	34.3	40.5	54.5	71.4

Double-declining balance depreciation, F to .75F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
31	Profits before taxes	8.1	5.8	1.2	-2.1	-2.1	.8	2.3	4.1	5.1	3.2	4.7	7.9	13.4	19.2
32	Percent of income originating	19.4	15.4	4.7	-12.1	-13.0	3.7	8.1	13.5	14.4	10.4	13.6	19.6	24.6	28.8
33	Profits after taxes	6.9	4.8	.8	-2.4	-2.6	.1	1.4	2.8	3.7	2.2	3.2	4.3	6.0	8.0
34	Percent of income originating	16.6	13.3	3.0	-14.1	-16.0	.5	5.6	9.2	10.4	7.3	9.7	12.8	11.0	11.2
35	Income originating	41.5	36.1	26.7	17.2	16.3	22.2	25.6	30.5	35.7	30.4	34.4	40.3	54.6	71.4

Current price (1) valuation:

Straight line depreciation, F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
36	Profits before taxes	7.6	5.3	1.2	-1.8	-2.0	.7	2.1	3.9	4.5	2.6	4.1	7.3	12.7	17.7
37	Percent of income originating	18.5	14.9	4.5	-10.5	-11.9	3.5	8.1	12.8	13.0	8.6	12.2	18.4	23.6	25.3
38	Profits after taxes	6.5	4.5	.8	-2.2	-2.5	.0	1.2	2.5	3.1	1.6	2.8	4.6	5.2	6.6
39	Percent of income originating	15.7	12.5	2.9	-12.5	-14.9	-.1	4.6	8.4	8.9	5.5	8.2	11.5	9.7	9.4
40	Income originating	41.3	35.9	26.7	17.5	16.5	22.0	26.4	30.3	34.1	29.8	33.6	39.9	53.6	70.0

Straight line depreciation, .85F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
41	Profits before taxes	7.4	4.1	1.6	-2.0	-2.0	.6	2.0	3.9	4.5	2.5	4.1	7.4	12.7	17.8
42	Percent of income originating	18.0	14.4	3.9	-11.3	-12.5	2.7	7.9	12.7	12.9	8.6	12.3	18.5	23.6	25.4
43	Profits after taxes	6.3	4.4	.6	-2.3	-2.5	-.1	1.1	2.5	3.1	1.6	2.8	4.6	5.2	6.6
44	Percent of income originating	15.2	12.8	2.3	-13.3	-15.5	-.4	4.4	8.3	8.8	6.2	8.2	11.6	9.7	9.4
45	Income originating	41.1	35.7	26.5	17.4	16.4	22.0	25.3	30.2	35.0	29.7	33.8	40.0	53.8	70.0

Straight line depreciation, F to .75F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
46	Profits before taxes	7.6	5.3	1.2	-1.8	-2.0	.7	2.1	3.9	4.5	2.6	4.1	7.3	12.7	17.7
47	Percent of income originating	18.5	14.9	4.5	-10.5	-11.9	3.0	8.1	12.8	13.0	8.6	12.2	18.4	23.6	25.3
48	Profits after taxes	6.5	4.5	.8	-2.2	-2.5	.0	1.2	2.5	3.1	1.6	2.8	4.6	5.2	6.6
49	Percent of income originating	15.7	12.5	2.9	-12.5	-14.9	-.1	4.6	8.4	8.9	5.5	8.2	11.5	9.7	9.4
50	Income originating	41.5	35.9	26.7	17.5	16.5	22.0	26.4	30.3	35.1	29.8	33.6	39.9	53.8	70.0

Double-declining balance depreciation, .85F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
51	Profits before taxes	7.2	4.9	1.0	-1.3	-1.6	.8	2.3	4.1	4.7	2.8	4.4	7.5	12.7	17.9
52	Percent of income originating	17.6	13.7	3.7	-10.9	-11.1	3.9	8.9	13.3	13.3	9.2	12.0	18.8	23.7	25.8
53	Profits after taxes	6.0	4.2	.5	-2.2	-2.8	.2	1.4	2.7	3.3	1.8	3.0	4.8	5.3	6.8
54	Percent of income originating	14.7	12.8	2.0	-12.5	-14.1	.7	5.4	9.0	9.3	6.1	9.8	11.9	9.8	9.7
55	Income originating	40.9	35.5	26.4	17.5	16.6	22.2	25.6	30.4	35.2	29.0	34.1	40.1	53.9	70.2

Double-declining balance depreciation, F to .75F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
56	Profits before taxes	7.4	5.1	1.1	-1.8	-1.8	.9	2.3	4.1	4.7	2.7	4.3	7.5	12.7	17.9
57	Percent of income originating	17.9	14.3	4.3	-10.3	-11.0	3.9	8.8	13.3	13.3	9.2	12.8	18.7	23.6	25.8
58	Profits after taxes	6.3	4.4	.7	-2.1	-2.3	.2	1.4	2.7	3.3	1.8	2.6	4.8	5.3	6.7
59	Percent of income originating	15.1	12.3	2.5	-12.2	-13.9	.7	5.3	9.0	9.3	6.0	8.8	11.9	9.8	9.6
60	Income originating	41.1	35.7	26.6	17.5	16.4	22.2	25.6	30.4	35.2	29.9	34.0	40.1	53.9	70.2

Current price (2) valuation:

Straight line depreciation, .85F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
61	Profits before taxes	7.6	5.3	1.3	-1.8	-2.0	.7	2.1	3.9	4.7	2.7	4.3	7.5	12.8	17.8
62	Percent of income originating	18.3	14.8	4.4	-10.6	-12.2	3.1	8.2	12.9	13.3	9.1	12.7	18.8	23.3	25.4
63	Profits after taxes	6.5	4.6	.7	-2.2	-2.6	-.0	1.2	2.6	3.2	1.8	2.9	4.8	5.4	6.7
64	Percent of income originating	15.5	12.7	2.7	-12.6	-15.2	-.1	4.7	8.5	9.2	6.0	8.7	12.0	8.9	8.6
65	Income originating	41.3	35.9	26.6	17.5	16.4	22.0	25.4	30.3	35.2	29.9	34.0	40.1	53.9	70.1

Double-declining balance depreciation, .85F service lives

Line		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
66	Profits before taxes	7.3	5.1	1.1	-1.7	-1.6	.9	2.3	4.1	4.9	2.9	4.5	7.7	12.8	18.0
67	Percent of income originating	17.8	14.3	4.2	-10.0	-11.0	4.1	9.1	13.5	13.6	9.7	12.3	19.0	23.8	25.6
68	Profits after taxes	6.2	4.4	.7	-2.1	-2.3	.2	1.4	2.8	3.4	2.0	3.1	4.9	5.4	6.8
69	Percent of income originating	15.0	12.2	2.6	-11.9	-14.0	.9	5.6	9.1	9.6	6.5	9.2	12.2	10.0	9.7
70	Income originating	41.0	35.7	26.6	17.6	16.6	22.3	25.6	30.5	35.3	30.1	34.2	40.2	54.0	70.2

[1] See notes to table 2.

National Income Accounts Definitions Compared With Profits and Income Originating Based on Alternative Methods of Depreciation, 1929–66

[Billions of dollars]

1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	Line

such ratios are presented in table 6 on a before- and after-tax basis. They result in essentially the same findings as comparisons of ratios of profits to corporate product.

Technical Note

Pending further study, no allowance was made for two factors that would probably raise the pre-World War II estimates of profits. These factors are the use of constant percentages prior to 1938 for allocating new investment between corporate and noncorporate business in computing the alternative depreciation measures and the exclusion from NIA capital consumption allowances of railroad retirements of structures prior to 1942.

As discussed in the appendix to part I, the percentages used for allocating new investment by corporate and noncorporate business were held constant prior to 1938. Actually they can be expected to decline at some point as one moves back into the 1800's. Estimates by Raymond W. Goldsmith show the overall corporate percentage as being roughly constant back to about 1900 and then declining as one moves farther back.[11]

There may be a partially offsetting factor involved in determining the appropriate corporate percentages. Neither the constant corporate percentages used in the study nor Goldsmith's allow explicitly for the effect of transfers of used assets between corporate and noncorporate business. The implicit assumption is that net transfers are zero. During the late 1800's and early 1900's, when the corporate form of organization was gaining in favor, there may have been a net transfer of used assets to the corporate sector. If so, the appropriate corporate percentages would be larger than those for new investment.

Preliminary calculations based on Goldsmith's percentages reduce the 1929

depreciation estimates valued at historical cost by about $100 million and those valued at current prices by about $200 million. Profits are increased correspondingly.

In the national accounts, the treatment of railroad structures in capital consumption allowances prior to 1942 is inconsistent with the definition of fixed gross private domestic investment. Investment in railroad structures is included in the investment data, but no allowance is included in capital consumption allowances for depreciation on the structures. (Prior to 1942, retirements of structures were charged by railroads directly to operating expenses and were not reported as depreciation to IRS.)

The computed depreciation variants in part II include depreciation on railroad structures prior to 1942 and are consistent with the definition of capital implied by the fixed gross private domestic investment figures in the national accounts.

The result of the exclusion of railroad retirements from NIA capital consumption is that the alternative profits series obtained by deducting computed depreciation from the sum of NIA capital consumption and profits are too low prior to 1942 by the amount of retirements charged as operating expenses. Retirements in 1929 were shown as about $200 million in reports to the Interstate Commerce Commission.[12] It is not known how closely this figure corresponds to retirements charged as expenses by railroads on IRS tax returns in 1929.

With adjustments of the magnitudes discussed above, the computed before-tax profits shares would be raised about 0.7 or 0.8 percentage points in 1929. The shares based on depreciation computed with gradually declining service lives and valued at historical cost would show slight declines from 1929 to 1965–66, and the others would increase less than shown in table 4.

12. U.S. Interstate Commerce Commission, *Statistics of Railways in the United States, 1929.*

CHART 9

Depreciation Valued at Current Prices as Percent of Historical Cost Depreciation
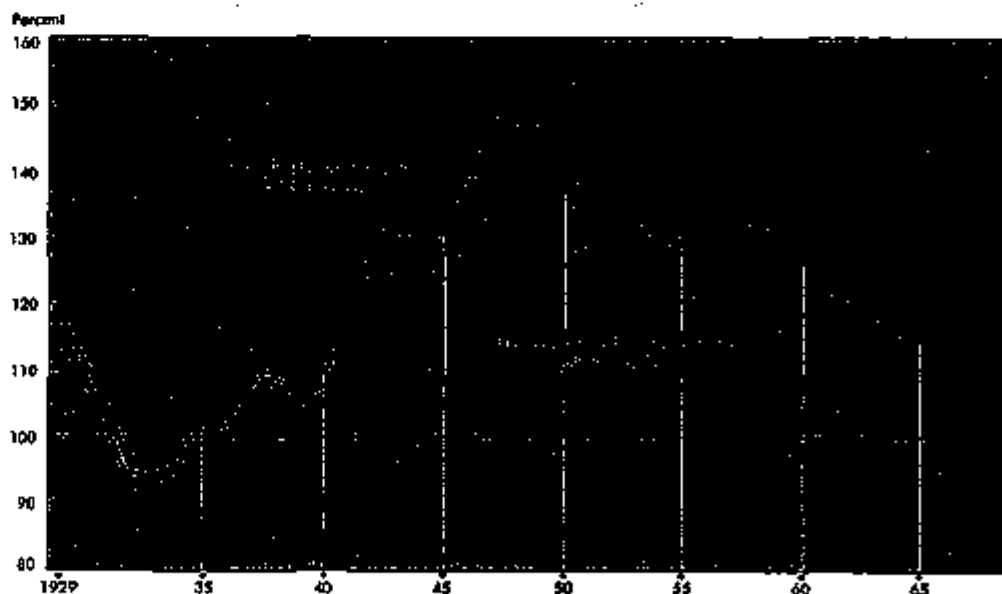
See notes on table 2.

U.S. Department of Commerce, Office of Business Economics

11. Raymond W. Goldsmith, *A Study of Saving in the United States*, Vol. I, Princeton University Press, 1955.